WATER WITHDRAWAL
&
WATER USE

Part 327 of Act 451
Great Lakes Preservation

Part 327
Great Lakes Preservation

Amendments Established New
or
Expanded Existing Requirements

Water use reporting
Water user registration
Environmental standards
Permit requirements

Important Definitions

Withdrawal

Large Quantity Withdrawal (LQW)

New or Increased LQW (NILQW)

Baseline Capacity (BC)

Adverse Resource Impact (ARI)

Withdrawal

The removal of water from its source for any purpose

Hydroelectric Generation is Exempt

What is Regulated - LQWs

- **Large Quantity Withdrawal (LQW)**
  - 1 or more withdrawals ≥100,000 gal/day
  - 30 day average
  - Supply a common distribution system
- **New or Increased LQW (NILQW)**
  - Increase of ≥100,000 gal/day
  - Reference is “Baseline Capacity”

Baseline Capacity

- Exempt from ARI Standard
- Withdrawal Capacity reported April 1, 2009 in Annual Report to DEQ (or MDA)
  - Quarry or Mine – Part 31 authorized discharge volume on February 28, 2006
  - System capacity in place on February 28, 2006
- Capacity not reported – highest annual reported water use 2002 thru 2005
- Community Supply – design withdrawal capacity per SDWA as of February 28, 2006

STANDARD FOR USE

Adverse Resource Impact (ARI)

ARI & Prohibition

- ARI – decreasing flow of stream or level of lake such that the ability to support fish population is functionally impaired
- Person shall not make LQW from waters of state that causes an ARI
- Exemptions:
  - Baseline Capacity - February 28, 2006
  - Fire suppression wells

Adverse Resource Impact

- Streams and Rivers
  - Withdrawal resulting in % decrease
    - Thriving Fish Population (TFP), or
    - Characteristic Fish Population (CFP)
  - Decrease ≈ Reduction in Index Flow
- Lake or Pond
  - Decrease in level of lake or pond that
    - Impairs or destroys lake or pond
    - Impairs uses of same
    - Impairs TFP/CFP
  - 5 acres or more

Adverse Resource Impact – Zone D

PERCENT REDUCTION in INDEX FLOW

System	Category	Index Flow (Percent reduction)
Cold River System	Stream	≥ 20
	Small River	≥ 21
Cold Trans. River System	Stream	≥ 4
	Small River	≥ 2
	Large River	≥ 3
Cool River System	Stream	≥ 25
	Small River	≥ 25
	Large River	≥ 25
Warm River System	Stream	≥ 24
	Small River	≥ 17
	Large River	≥ 22

WATER WITHDRAWAL ASSESSMENT and SITE SPECIFIC REVIEWS

Required Information
(Water Withdrawal Assessment Tool - WWAT)

Capacity

Location

Surface or Ground water

Glacial or Bedrock

Depth

Amount

Intermittent

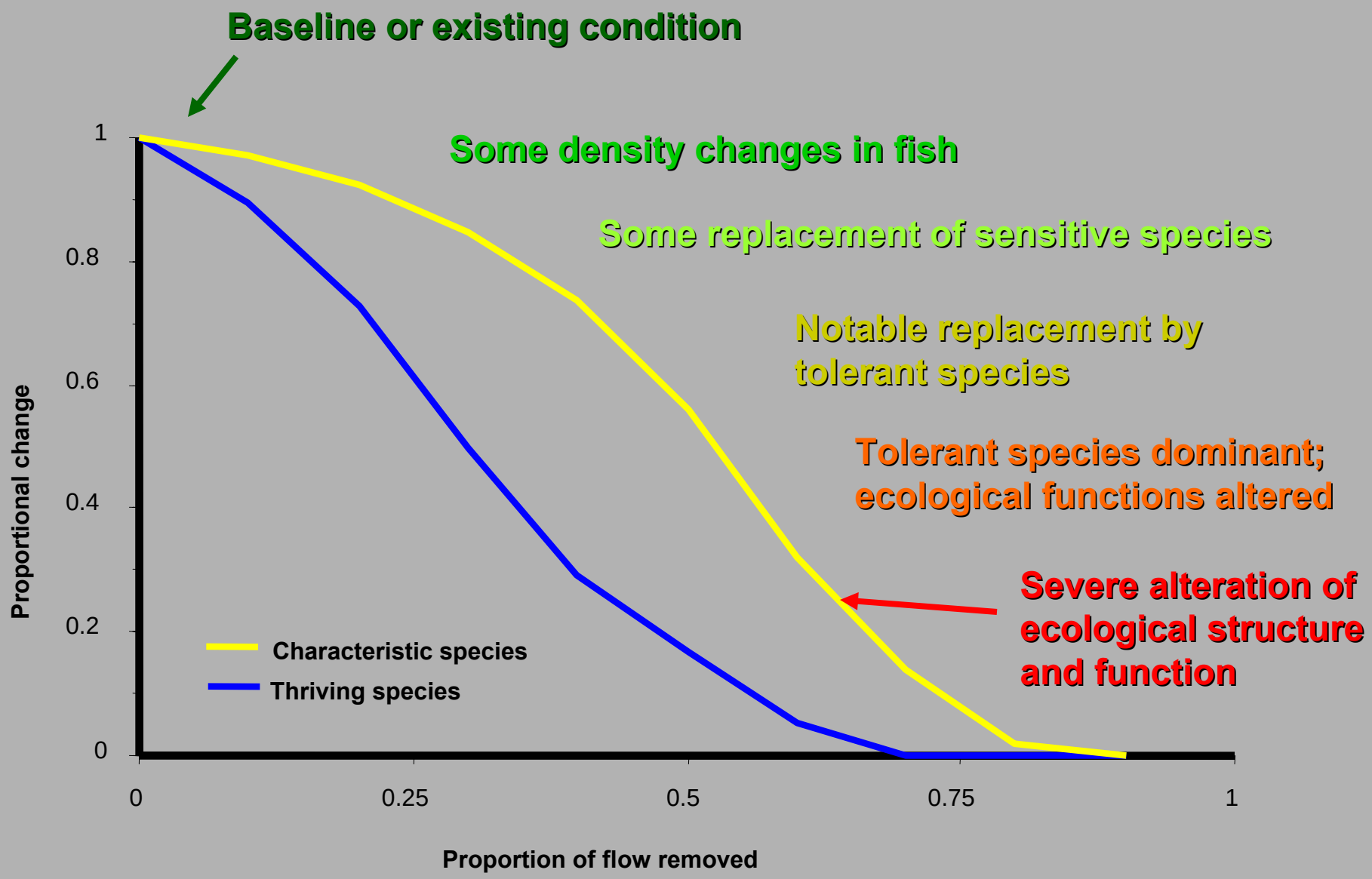
Water Withdrawal Assessment Components

- Hydrology Model (LWMD)
  - Projection of stream "index flow" – total water
  - Defined as 50% exceedance flow for August
- Fish Model (MDNR – Fisheries)
  - Characterization of fish population
  - Fish population response to change in flow
  - Establishes available water for withdrawal
- Hydrogeology Model (USGS)
  - Projected impact of withdrawal on stream flow
  - Ground water – apportioned based on geology
  - Surface water – 100% from stream

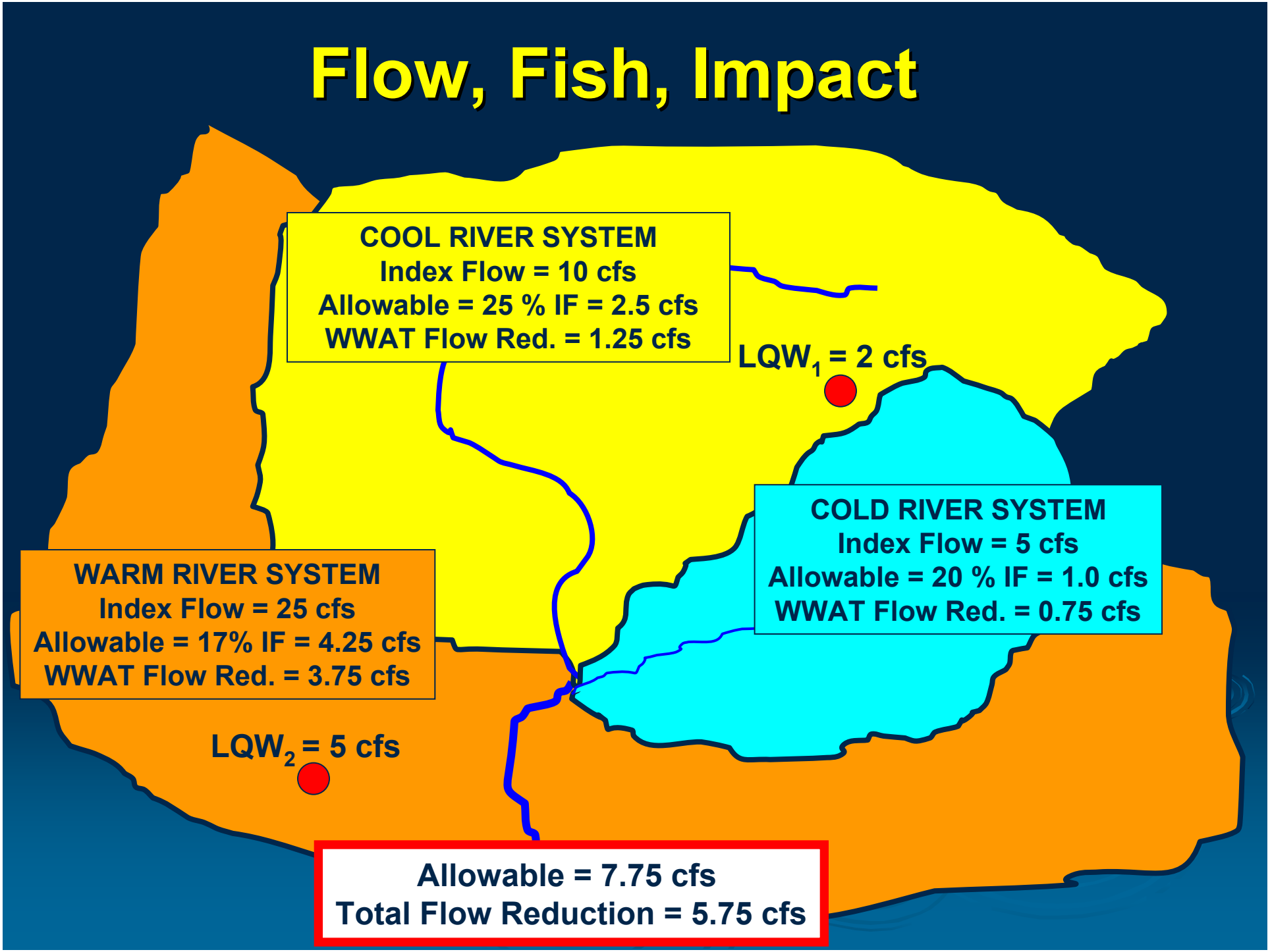
Fish - Flow Assumption

Water withdrawal would shift the site's fish assemblage to one of an otherwise similar site that shared its reduced flow and associated hydrologic attributes.

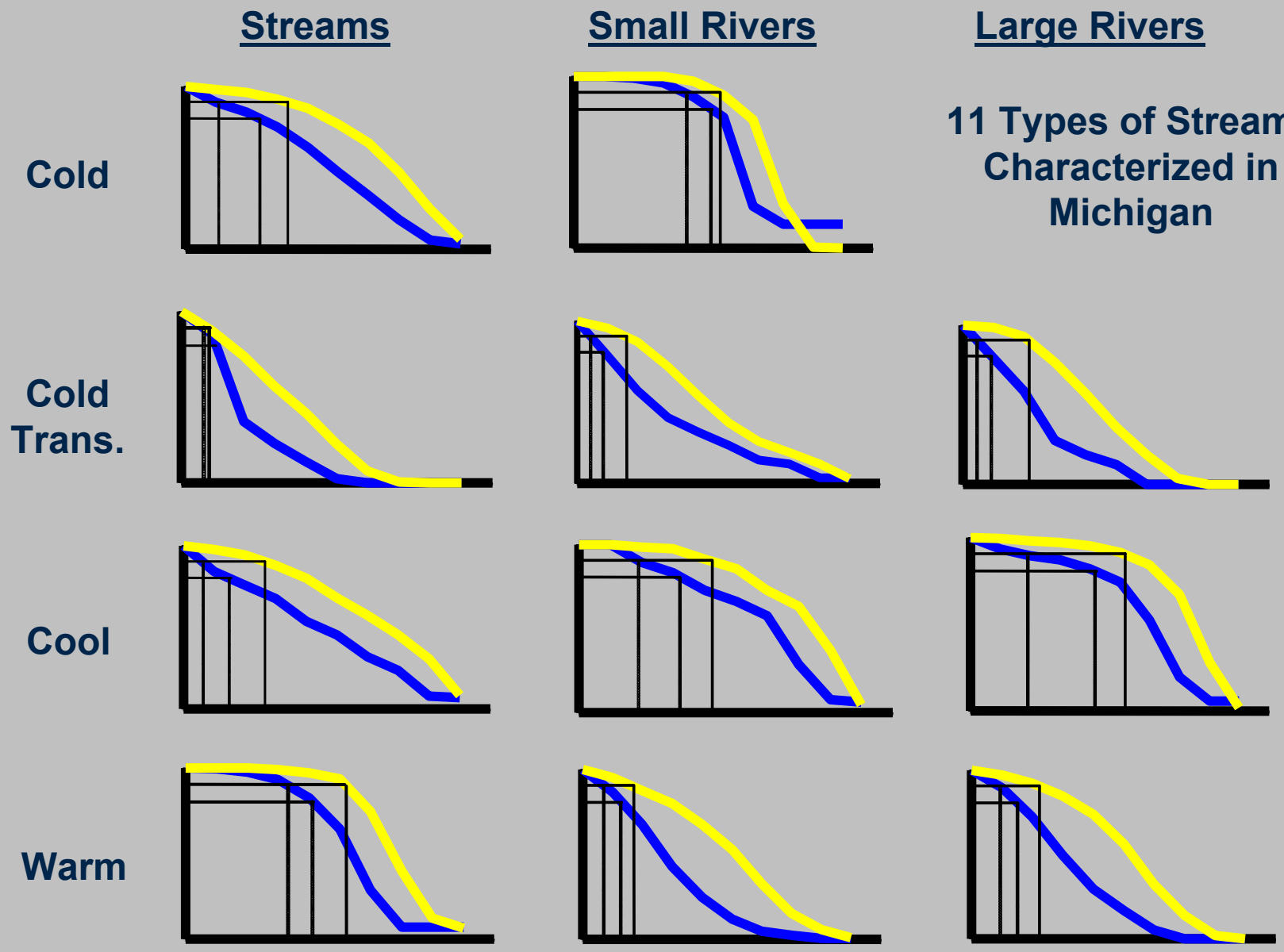
Fish Population Response Curve



Flow, Fish, Impact



Fish Response Models

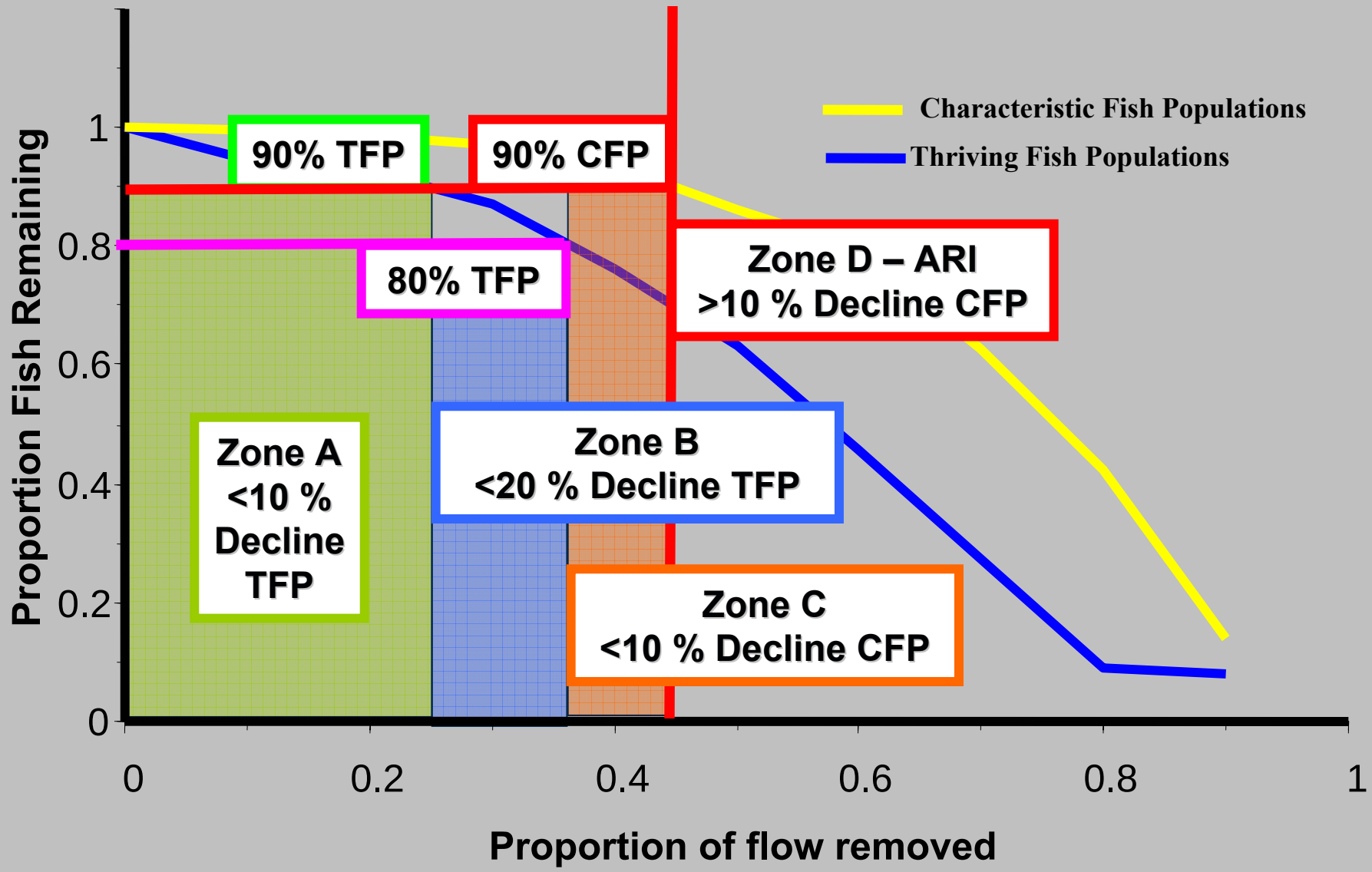


REGULATORY ZONES ASSESSMENT TOOL OUTCOMES DEPARTMENT ACTIONS

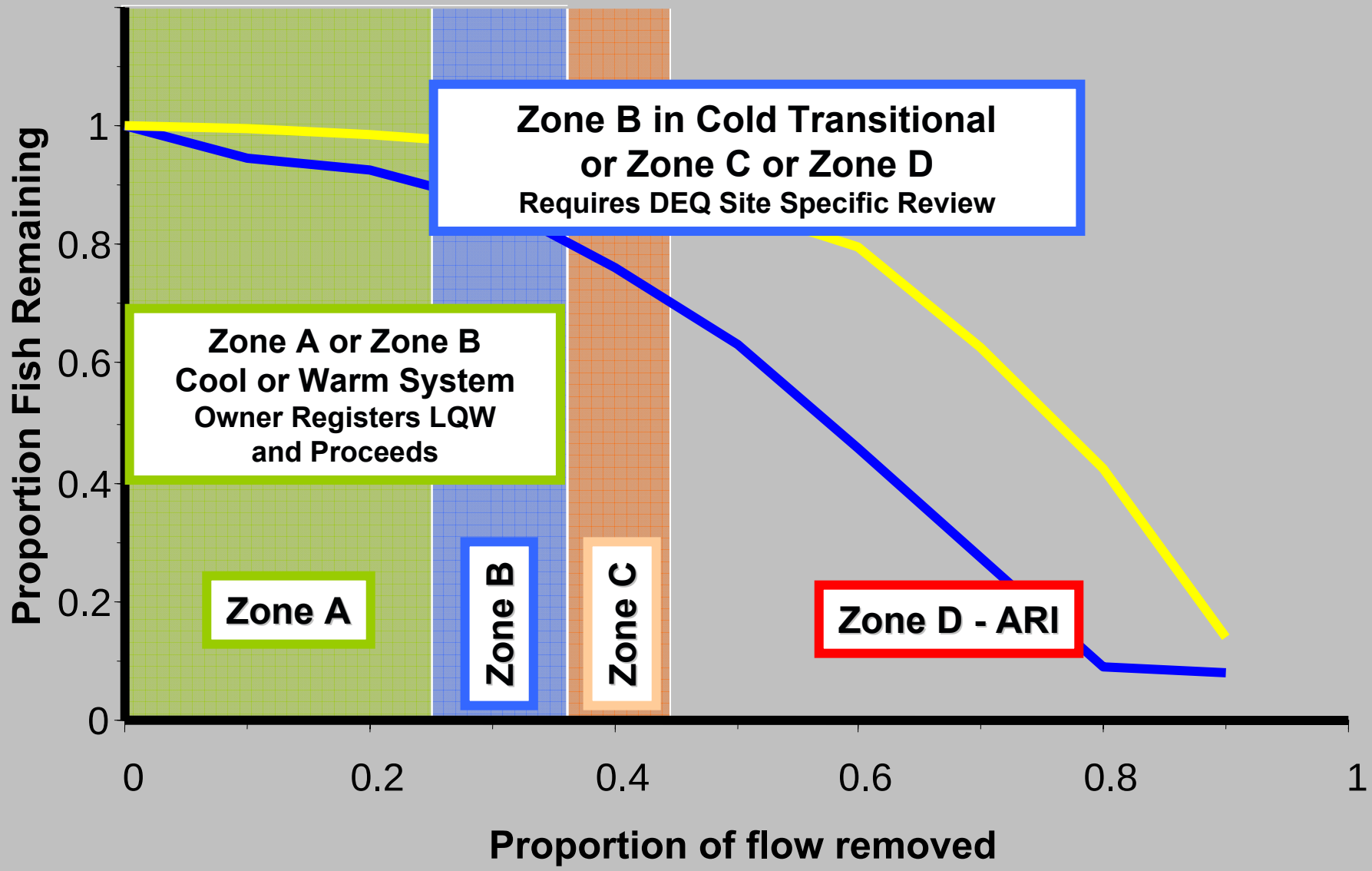
Zone Designations

- Based on % reductions in TFP or CFP
  - Zone A – 1 to 10% reduction in TFP
  - Zone B – 5 to 20% reduction in TFP
  - Zone C – 1 to 15% TFP or 5 to 10% CFP
  - Zone D – 1 to 15%TFP or 5 to 10% CFP
- Notables:
  - Cold river systems have no Zone B
  - Cold-Trans systems have no Zone A or C

Description of Regulatory Zones



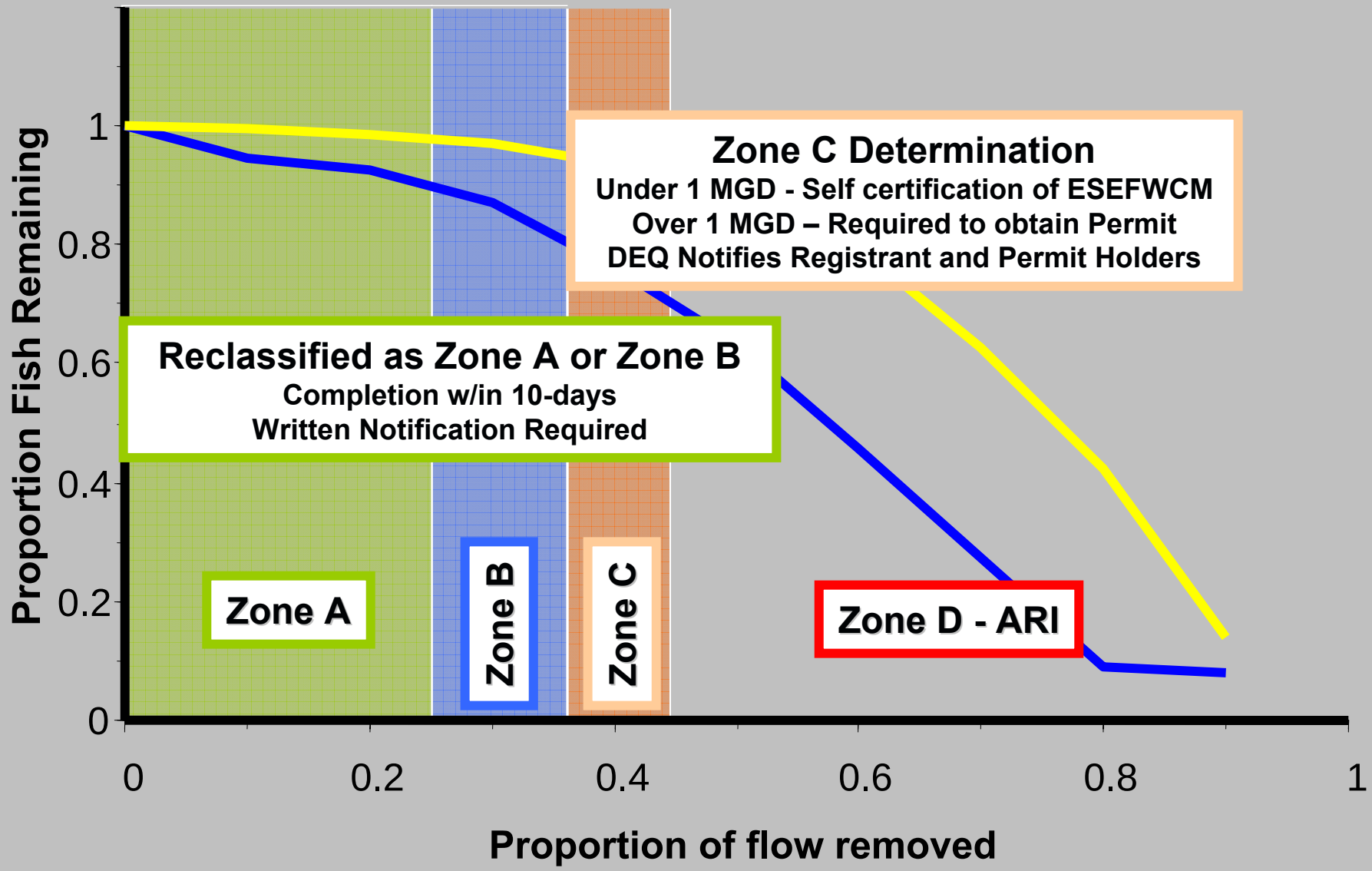
Required Actions – Assessment Tool



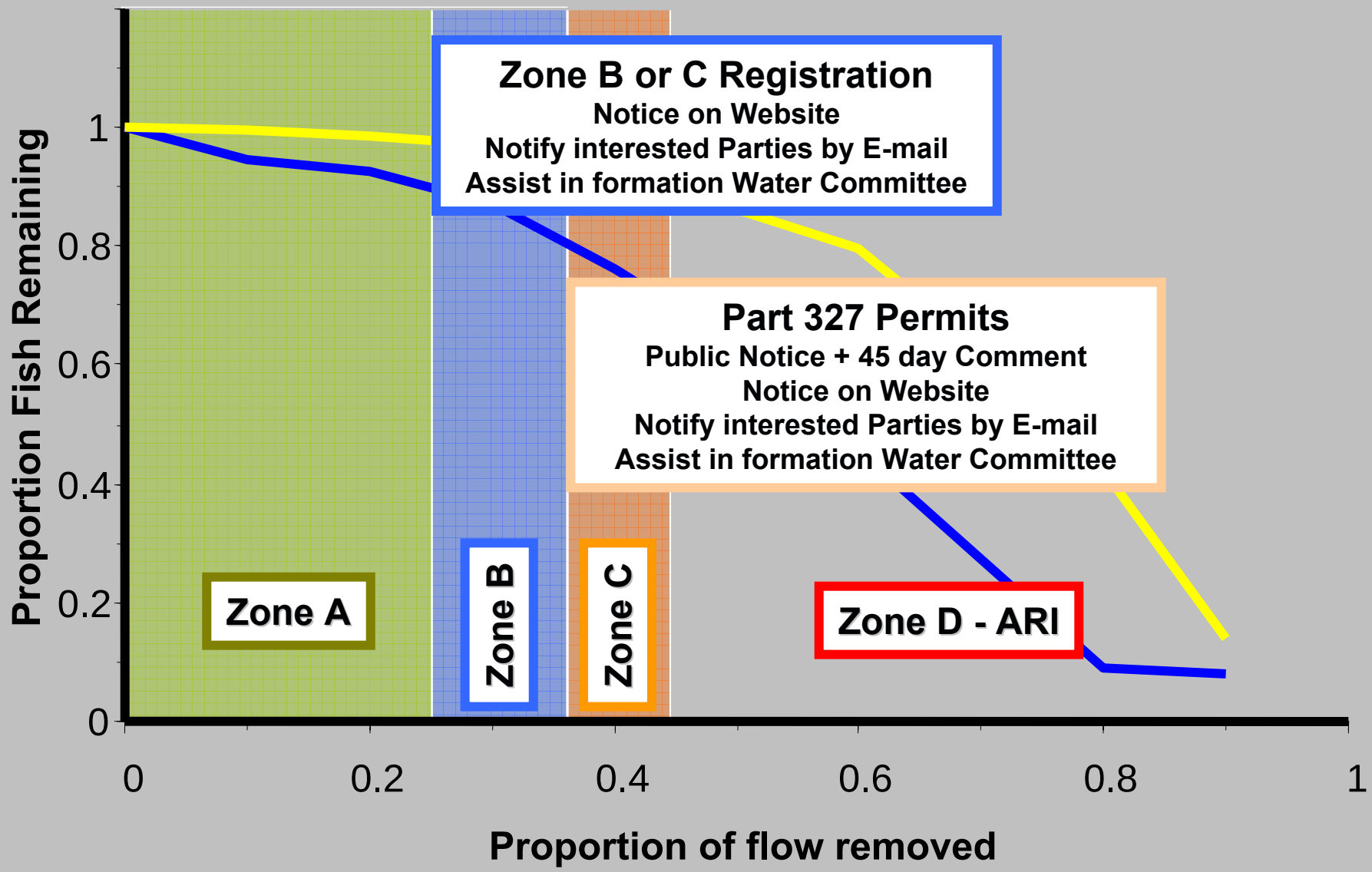
Site Specific Reviews - SSR

- Department's independent review
- Determination as to whether NILQW is actually Zone A, B, C or D
- Required for WWAT determinations:
  - Zone B in cold-transitional river system
  - Zone C or Zone D
- Completion by DEQ required w/in 10 days
- Property owner may voluntarily request SSR – completion required in 30 days

Required Actions – Site Specific Review



Notification Requirements



Act 399
Safe Drinking Water Act
Amendments

PWSS - New Requirements

- Amendments to Section 4 – filing plans and specification ….. use of assessment tool …. Etc.
- Requires DEQ evaluate Community Supply LQWs relative to Part 327 requirements
- Requires certification of ESEFWCM for Zone C and Zone D withdrawals